NATIONAL PHOTOGRAPHIC INTERPRETATION CENTER

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25X1

basic imagery interpretation report

Sary-Shagan R&D Radar Facility 3 (S)

MISSILE RANGES: STRATEGIC SSM SPACE FACILITIES

25X1

USSR

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RCA-15/0002/80

JUNE 1980

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INSTALLATION OR ACTIVITY NAME					COUNTRY
Sary-Shagan R&D Radar Facility 3					UR
UTM COORDINATES	GEOGRAPHIC COORDINATES	CATEGORY	BE NO.	COMIREX NO.	NIETB NO.
NA	45-58-00N 073-38-10E	[redacted]			

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MAP REFERENCE

DMAAC. USATC, Series 200, Sheet 0245-15, scale 1:200,000

LATEST IMAGERY USED	NEGATION DATE (If required)
[redacted]	NA

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ABSTRACT

1. (TSR) The Sary-Shagan R&D Radar Facility 3 contains a large phased-array radar which is probably ABM related. The facility consists of an operations area, a support area, a transformer yard, and a water treatment facility. This report provides a chronology, location, and description of the changes involving the radar building that have been observed since early 1976.

2. (TSR) This report updates the following NPIC reports: [redacted] dated June 1973; [redacted] dated January 1975; and [redacted] dated October 1977. Included in this report are one map and two annotated photographs.

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BASIC DESCRIPTION

3. (TSR) Sary-Shagan R&D Radar Facility 3 (Figure 1) has been under construction and development since January 1969 and has been described in previous NPIC reports.[1-3] The radar building was externally complete by early 1976. Since that time, significant activity has included the delivery of probable internal components for the phased-array radars and the construction of radar-related devices, such as calibration radars and calibration towers. The following discussion provides a chronology, location, and description of the activity observed since early 1976.

1976

4. [redacted] In 1976, a large number of crates, which probably contained sensitive radar components and/or hardware, were near the main entrance to the radar building. The crates were gradually removed during the year, indicating that the radar was probably being assembled within the building. In addition, three lightning arresters, two small platforms, and a small, unidentified mast antenna were added to the roof of the radar building. The three lightning arresters, approximately [redacted] tall, were constructed between March and August 1976. One lightning arrester is on the raised roof section above the probable transmitter antenna,[4] and one is on each end of the roof above the probable receiver antenna. The two unidentified platforms on the roof above the probable receiver antenna (Figure 2) were first observed on [redacted] These platforms are [redacted] square and are [redacted] tall. A cable extends from a window on the east side of the building to these two platforms. An unidentified [redacted] mast antenna was also observed for the first time on [redacted] This antenna was constructed on the roof of the building section which separates the probable transmitter from the probable receiver antenna.

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[redacted]

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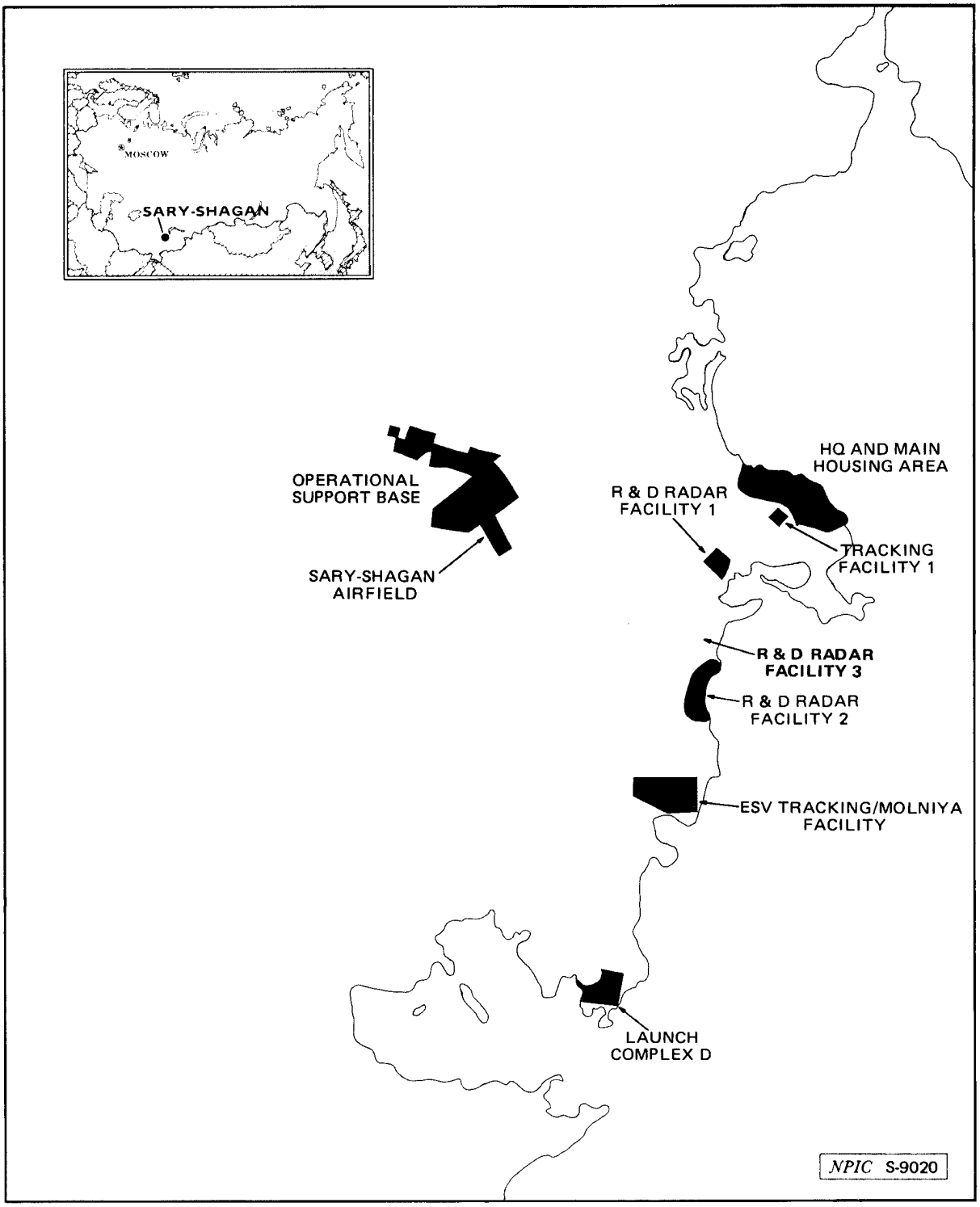
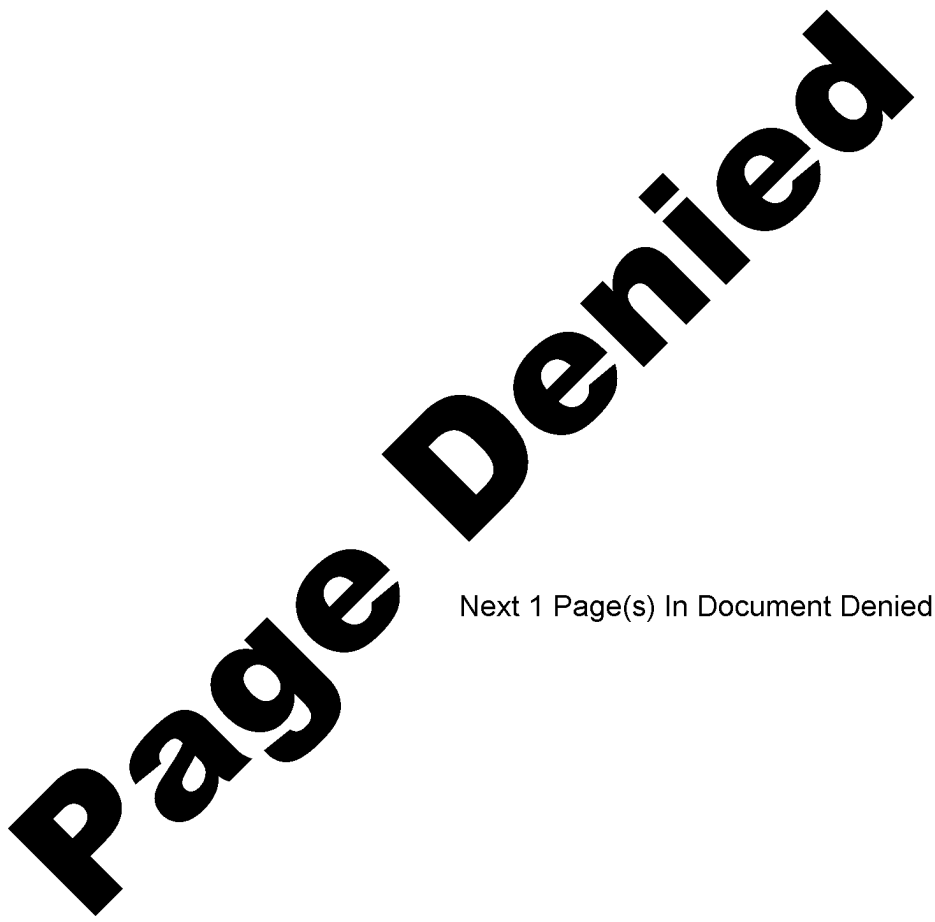


FIGURE 1. LOCATION OF SARY-SHAGAN R&D RADAR FAC 3, USSR



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1977

5. (TSR) In 1977, a probable mast antenna and a two-element cigar antenna were added to the roof of the radar building, and two SQUARE PAIR radars, three calibration towers, and a monitoring horn were added around the radar building.

6. (TSR) The [redacted] mast antenna was first observed on [redacted] on the roof of the small raised portion of the building above the main entrance. This antenna has a star-shaped base and is probably a communications antenna. 25X1

7. (TSR) The two-element cigar antenna was added to the roof of the raised section at the south corner of the radar building by [redacted] The antenna elements are [redacted] meters apart, and are each on a [redacted] disk base. 25X1 25X1

8. (TSR) The two SQUARE PAIR radars were first observed on [redacted] These radars are probably used for calibrating the phased-array radar. On [redacted] the four vans associated with the northern SQUARE PAIR radar were removed from the facility. There have been no other changes to these SQUARE PAIR radars. 25X1 25X1

9. (TSR) By [redacted], two 40-meter calibration towers had been erected 537 meters from the probable transmitter antenna on an azimuth of [redacted] A cable tray extends 546 meters from the north side of the radar building to a small building between the two towers, which are [redacted] apart (Figure 3). 25X1 25X1 25X1

10. (TSR) A third calibration tower, [redacted] tall, was also observed on [redacted] (Figure 2). This tower is [redacted] from the probable transmitter antenna on an azimuth of [redacted] degrees. A short cable connects this tower to the cable tray which extends to the two 40-meter calibration towers. On [redacted] a monitoring horn was installed 40 meters in front of the probable transmitter antenna and was connected by cable to the third, and closest, calibration tower. The [redacted] monitoring horn is mounted on a [redacted] tower. The tower was assembled on a [redacted] concrete base. A [redacted] electronics van is associated with the monitoring horn. 25X1 25X1 25X1 25X1 25X1

1978

11. (TSR) During 1978, two small domes were constructed in front of the probable receiver antenna, and two additional calibration towers were erected.

12. (TSR) The two small domes were installed between [redacted] These [redacted] diameter domes are set in a building section which is [redacted] tall, and inclined back at an angle of [redacted] from the vertical. A [redacted] mast on a [redacted] pedestal is [redacted] in front of each dome. The masts are [redacted] apart and are connected by cable to the domes. 25X1 25X1 25X1 25X1 25X1

13. (TSR) On [redacted] two 40-meter calibration towers were observed erected approximately 1,000 meters from the probable receiver antenna on an azimuth of [redacted] The towers are [redacted] apart (Figure 3). 25X1 25X1 25X1

1979

14. (TSR) In 1979, a large number of crates was delivered to the area in front of the main entrance to the radar building (Figure 3). This may be an indication of modifications to the radar. On [redacted] three [redacted] tall clutter screens were observed in front of the probable receiver antenna. By [redacted] these screens had been moved closer to the probable receiver antenna. The screens were positioned [redacted] from the base of the large radome, and their lengths were [redacted] respectively. 25X1 25X1 25X1 25X1

REFERENCES

IMAGERY

(TSR) All applicable KEYHOLE imagery acquired from [redacted] was used in the preparation of this report. 25X1 25X1

MAPS OR CHARTS

DMAAC. US Air Target Chart, Series 200, Sheet 0245-15, scale 1:200,000 (UNCLASSIFIED)

DOCUMENTS

1. NPIC. [redacted] RCA-19/0009/73, *Sary-Shagan Missile Test Center Possible Electronics Research and Development Facility Unidentified (Probable Research and Development Radar Facility Ucon),* Jun 73 (TOP SECRET [redacted] 25X1 25X1
2. NPIC. [redacted] RCA-19/0001/75, *Sary Shagan Probable Research and Development Radar Facility,* Jan 75 (TOP SECRET [redacted] 25X1 25X1
3. NPIC. [redacted] RCA-19/0002/77, *Sary-Shagan Missile Test Center (S),* Oct 77 (TOP SECRET R/ [redacted] 25X1 25X1
4. R&D Associates, Marina Del Ray, Calif. [redacted] Report No SA/040-241/79, NSA Contract, [redacted] *Special Facility Signal Search Analysis (U),* Oct 79 (TOP SECRET [redacted] 25X1 25X1

[redacted] 25X1

REQUIREMENT

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Project 200005D

(S) Comments and queries regarding this report are welcome. They may be directed to [redacted] Soviet Strategic Forces Division, Imagery Exploitation Group, NPIC, [redacted] 25X1 25X1

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